

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A thin film transistor comprising:

at least a channel forming region in a crystalline semiconductor film comprising silicon,

wherein not ~~smaller~~ less than 20% of a lattice plane {101} of the crystalline semiconductor film has an angle of not ~~larger~~ greater than 10 degrees with respect to a surface of the crystalline semiconductor film, not ~~larger~~ more than 3% of a lattice plane {001} of the crystalline semiconductor film has an angle of not ~~larger~~ greater than 10 degrees with respect to the surface of the crystalline semiconductor film, not ~~larger~~ more than 5% of a lattice plane {111} of the crystalline semiconductor film has an angle of not ~~larger~~ greater than 10 degrees with respect to the surface of the semiconductor film detected by an electron backscatter diffraction pattern method.

2. (Currently Amended) A thin film transistor comprising:

at least a channel forming region in a crystalline semiconductor film comprising silicon,

wherein not ~~smaller~~ less than 5% of a lattice plane {101} of the crystalline semiconductor film has an angle of not ~~larger~~ greater than 5 degrees with respect to a surface of the crystalline semiconductor film, not ~~larger~~ more than 3% of a lattice plane {001} of the crystalline semiconductor film has an angle of not ~~larger~~ greater than 10 degrees with respect to the surface of the crystalline semiconductor film, not ~~larger~~ more than 5% of a lattice plane {111} of the crystalline semiconductor film has an angle of not ~~larger~~ greater than 10 degrees with respect to the surface of the crystalline semiconductor film detected by an electron backscatter diffraction pattern method.

3. (Currently Amended) **[[A]]** The thin film transistor **comprising:**

~~——at least a channel forming region in a crystalline semiconductor film comprising silicon,~~

~~——wherein not smaller than 20% of a lattice plane {101} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to a surface of the crystalline semiconductor film, not larger than 3% of a lattice plane {001} of the crystalline semiconductor film has an angle of not larger than 10 degrees with to the surface of the crystalline semiconductor film, not larger than 5% of a lattice plane {111} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film detected by an electron backscatter diffraction pattern method,~~ of claim 1 wherein the crystalline semiconductor film comprises nitrogen and carbon each at a concentration smaller than  $5 \times 10^{18}/\text{cm}^3$ , and oxygen at a concentration smaller than  $1 \times 10^{19}/\text{cm}^3$ .

4. (Currently Amended) **[[A]]** The thin film transistor **comprising:**

~~——at least a channel forming region in a crystalline semiconductor film comprising silicon,~~

~~——wherein not smaller than 5% of a lattice plane {101} of the crystalline semiconductor film has an angle of not larger than 5 degrees with respect to a surface of the crystalline semiconductor film, not larger than 3% of a lattice plane {001} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film, not larger than 5% of a lattice plane {111} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film detected by an electron backscatter diffraction pattern method,~~ of claim 2 wherein the crystalline semiconductor film comprises nitrogen and carbon each at a concentration smaller than  $5 \times 10^{18}/\text{cm}^3$ , and oxygen at a concentration smaller than  $1 \times 10^{19}/\text{cm}^3$ .

5. (Currently Amended) [[A]] The thin film transistor ~~comprising:~~

~~—— at least a channel forming region in a crystalline semiconductor film comprising silicon, of claim 1~~ wherein the crystalline semiconductor film comprises germanium at a concentration not ~~smaller~~ less than 0.1 atomic % but not ~~larger~~ greater than 10 atomic %;  
~~—— wherein not smaller than 20% of a lattice plane {101} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to a surface of the crystalline semiconductor film, not larger than 3% of a lattice plane {001} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film, not larger than 5% of a lattice plane {111} has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film detected by an electron backscatter diffraction pattern method.~~

6. (Currently Amended) [[A]] The thin film transistor ~~comprising:~~

~~—— at least a channel forming region in a crystalline semiconductor film comprising silicon, of claim 2~~ wherein the crystalline semiconductor film comprises germanium at a concentration not ~~smaller~~ less than 0.1 atomic % but not ~~larger~~ greater than 10 atomic %;  
~~—— wherein not smaller than 5% of a lattice plane {101} of the crystalline semiconductor film has an angle of not larger than 5 degrees with respect to a surface of the crystalline semiconductor film, not larger than 3% of a lattice plane {001} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film, not larger than 5% of a lattice plane {111} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film detected by an electron backscatter diffraction pattern method.~~

7. (Currently Amended) [[A]] The thin film transistor **comprising:**

~~—— at least a channel forming region in a crystalline semiconductor film comprising silicon, wherein the crystalline semiconductor film comprises germanium at a concentration not smaller than 0.1 atomic % but not larger than 10 atomic %,~~

~~—— wherein not smaller than 20% of a lattice plane {101} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to a surface of the semiconductor film, not larger than 3% of a lattice plane {001} has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film, not larger than 5% of a lattice plane {111} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film as detected by an electron backscatter diffraction pattern method, of claim 5~~

wherein the crystalline semiconductor film comprises nitrogen and carbon each at a concentration **smaller less** than  $5 \times 10^{18}/\text{cm}^3$ , and oxygen at a concentration **smaller less** than  $1 \times 10^{19}/\text{cm}^3$ .

8. (Currently Amended) [[A]] The thin film transistor **comprising:**

~~—— at least a channel forming region in a crystalline semiconductor film comprising silicon,~~

~~—— wherein the crystalline semiconductor comprises germanium at a concentration not smaller than 0.1 atomic % but not larger than 10 atomic %,~~

~~—— wherein not smaller than 5% of a lattice plane {101} of the crystalline semiconductor film has an angle of not larger than 5 degrees with respect to a surface of the crystalline semiconductor film, not larger than 3% of a lattice plane {001} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film, not larger than 5% of a lattice plane {111} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film detected by an electron backscatter diffraction pattern method, of claim 6~~ wherein the crystalline semiconductor film comprises nitrogen and carbon each at a concentration **smaller less** than  $5 \times 10^{18}/\text{cm}^3$ , and oxygen at a concentration **smaller less** than  $1 \times 10^{19}/\text{cm}^3$ .

9. (Currently Amended) A transistor according to claim 1,  
wherein the crystalline semiconductor film comprises a metal element at a concentration ~~smaller~~ less than  $1 \times 10^{17}/\text{cm}^3$ .
10. (Original) A transistor according to claim 1,  
where in the crystalline semiconductor film comprises at least a metal element selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.
11. (Original) A transistor according to claim 1,  
where in crystalline semiconductor film has a thickness in a range of 20 to 100 nm.
- 12-18. (Canceled)
19. (Original) A transistor according to claim 1,  
wherein the crystalline semiconductor film comprises hydrogen or a halogen element.
20. (Currently Amended) A semiconductor device comprising:  
at least a channel forming region in a crystalline semiconductor film comprising silicon,  
wherein not ~~smaller~~ less than 20% of a lattice plane {101} of the crystalline semiconductor film has an angle of not ~~larger~~ greater than 10 degrees with respect to a surface of the crystalline semiconductor film, not ~~larger~~ more than 3% of a lattice plane {001} of the crystalline semiconductor film has an angle of not ~~larger~~ greater than 10 degrees with respect to the surface of the crystalline semiconductor film, not ~~larger~~ more than 5% of a lattice plane {111} has an angle of not ~~larger~~ greater than 10 degrees with respect to the surface of the crystalline semiconductor film detected by an electron backscatter diffraction pattern method.

21. (Currently Amended) A semiconductor device comprising:  
at least a channel forming region in a crystalline semiconductor film comprising silicon,  
wherein not ~~smaller~~ less than 5% of a lattice plane {101} of the crystalline semiconductor film has an angle of not ~~larger~~ greater than 5 degrees with respect to a surface of the crystalline semiconductor film, not ~~larger~~ more than 3% of a lattice plane {001} of the crystalline semiconductor film has an angle of not ~~larger~~ greater than 10 degrees with respect to the surface of the crystalline semiconductor film, not ~~larger~~ more than 5% of a lattice plane {111} of the crystalline semiconductor film has an angle of not ~~larger~~ greater than 10 degrees with respect to the surface of the crystalline semiconductor film as detected by an electron backscatter diffraction pattern method.

22. (Currently Amended) ~~[[A]] The semiconductor device comprising:~~  
~~—— at least a channel forming region in a crystalline semiconductor film comprising silicon,~~  
~~—— wherein not smaller than 20% of a lattice plane {101} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film, not larger than 3% of a lattice plane {001} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film, not larger than 5% of a lattice plane {111} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film detected by an electron backscatter diffraction pattern method,~~ of claim 20 wherein the crystalline semiconductor film comprises nitrogen and carbon each at a concentration ~~smaller~~ less than  $5 \times 10^{18}/\text{cm}^3$ , and oxygen at a concentration ~~smaller~~ less than  $1 \times 10^{19}/\text{cm}^3$ .

23. (Currently Amended) ~~[[A]] The semiconductor device comprising:~~  
~~—— at least a channel forming region in a crystalline semiconductor film comprising silicon,~~

~~wherein not smaller than 5% of a lattice plane {101} of the crystalline semiconductor film has an angle of not larger than 5 degrees with respect to a surface of the crystalline semiconductor film, not larger than 3% of a lattice plane {001} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film, not larger than 5% of a lattice plane {111} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film detected by an electron backscatter diffraction pattern method, of claim 21~~ wherein the crystalline semiconductor film comprises nitrogen and carbon each at a concentration ~~smaller~~ less than  $5 \times 10^{18}/\text{cm}^3$ , and oxygen at a concentration ~~smaller~~ less than  $1 \times 10^{19}/\text{cm}^3$ .

24. (Currently Amended) [[A]] The semiconductor device ~~comprising:~~

~~at least a channel forming region in a crystalline semiconductor film comprising silicon, of claim 20~~ wherein the crystalline semiconductor film comprises germanium at a concentration not ~~smaller~~ less than 0.1 atomic % but not ~~larger~~ greater than 10 atomic %;

~~wherein not smaller than 20% of a lattice plane {101} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to a surface of the crystalline semiconductor film, not larger than 3% of a lattice plane {001} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film, not larger than 5% of a lattice plane {111} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film detected by an electron backscatter diffraction pattern method.~~

25. (Currently Amended) [[A]] The semiconductor device ~~comprising:~~

~~at least a channel forming region in a crystalline semiconductor film comprising silicon, of claim 21~~ wherein the crystalline semiconductor film comprises germanium at a concentration not ~~smaller~~ less than 0.1 atomic % but not ~~larger~~ greater than 10 atomic %;

~~wherein not smaller than 5% of a lattice plane {101} of the crystalline semiconductor film has an angle of not larger than 5 degrees with respect to a surface of the crystalline semiconductor film, not larger than 3% of a lattice plane {001} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film, not larger than 5% of a lattice plane {111} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film detected by an electron backscatter diffraction pattern method.~~

26. (Currently Amended) [[A]] The semiconductor device ~~comprising~~:

~~at least a channel forming region in a crystalline semiconductor film comprising silicon,~~

~~wherein the crystalline semiconductor film comprises germanium at a concentration not smaller than 0.1 atomic % but not larger than 10 atomic %,~~

~~wherein not smaller than 20% of a lattice plane {101} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to a surface of the crystalline semiconductor film, not larger than 3% of a lattice plane {001} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film, not larger than 5% of a lattice plane {111} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film detected by an electron backscatter diffraction pattern method,~~ of claim 24 wherein the crystalline semiconductor film comprises nitrogen and carbon each at a concentration ~~smaller~~ less than  $5 \times 10^{18}/\text{cm}^3$ , and oxygen at a concentration ~~smaller~~ less than  $1 \times 10^{19}/\text{cm}^3$ .

27. (Currently Amended) [[A]] The semiconductor device ~~comprising~~:

~~at least a channel forming region in a crystalline semiconductor film comprising silicon,~~

~~wherein the crystalline semiconductor film comprises germanium at a concentration not smaller than 0.1 atomic % but not larger than 10 atomic %,~~



~~wherein not smaller than 5% of a lattice plane {101} of the crystalline semiconductor film has an angle of not larger than 5 degrees with respect to a surface of the crystalline semiconductor film, not larger than 3% of a lattice plane {001} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film, not larger than 5% of a lattice plane {111} of the crystalline semiconductor film has an angle of not larger than 10 degrees with respect to the surface of the crystalline semiconductor film detected by an electron backscatter diffraction pattern method,~~ of claim 25 wherein the crystalline semiconductor film comprises nitrogen and carbon each at a concentration ~~smaller~~ less than  $5 \times 10^{18}/\text{cm}^3$ , and oxygen at a concentration ~~smaller~~ less than  $1 \times 10^{19}/\text{cm}^3$ .

28. (Currently Amended) A device according to claim 20, wherein the crystalline semiconductor film comprises a metal element at a concentration ~~smaller~~ less than  $1 \times 10^{17}/\text{cm}^3$ .

29. (Original) A device according to claim 20,  
wherein the crystalline semiconductor film comprises at least a metal element selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

30. (Original) A device according to claim 20,  
wherein the crystalline semiconductor film has a thickness in a range of 20 to 100 nm.

31-37. (Canceled)

38. (Original) A device according to claim 20,  
wherein the crystalline semiconductor film comprises hydrogen or a halogen element.

39. (Currently Amended) A transistor according to claim 2,

wherein the crystalline semiconductor film comprises a metal element at a concentration ~~smaller~~ less than  $1 \times 10^{17}/\text{cm}^3$ .

40. (Original) A transistor according to claim 2,  
wherein the crystalline semiconductor film comprises at least a metal element selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

41. (Original) A transistor according to claim 2,  
wherein the crystalline semiconductor film has a thickness in a range of 20 to 100 nm.

42. (Original) A transistor according to claim 2,  
Wherein the crystalline semiconductor film comprises hydrogen or a halogen element.

43-79. (Canceled)

80. (Currently Amended) A device according to claim 21,  
wherein the crystalline semiconductor film comprises a metal element at a concentration ~~smaller~~ less than  $1 \times 10^{17}/\text{cm}^3$ .

81. (Original) A device according to claim 21,  
wherein the crystalline semiconductor film comprises at least a metal element selected from the group consisting of Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, Pt, Cu and Au.

82. (Original) A device according to claim 21,  
wherein the crystalline semiconductor film has a thickness in a range of 20 to 100 nm.

83. (Original) A device according to claim 21,

wherein the crystalline semiconductor film comprises hydrogen or a halogen element.

84-120. (Canceled)

121. (Original) A device according to claim 20,  
wherein the semiconductor device comprises one selected from the group consisting of a cell phone, a video camera, a mobile computer, a portable data terminal, a TV receiver, a portable notebook, a personal computer, a player using a recording medium recording a program, a digital camera, a front-type projector and a rear-type projector.

122. (Original) A device according to claim 21,  
wherein the semiconductor device comprises one selected from the group consisting of a cell phone, a video camera, a mobile computer, a portable data terminal, a TV receiver, a portable notebook, a personal computer, a player using a recording medium recording a program, a digital camera, a front-type projector and a rear-type projector.

123-132. (Canceled)